



Contribution ID: 43

Type: Poster

Neutron-antineutron oscillation search at Super-Kamiokande

As a baryon number violating process with $\Delta B = \Delta(B - L) = 2$, neutron-antineutron oscillation ($n \rightarrow \bar{n}$) provides an important candidate and a unique probe to the baryon asymmetry.

We performed a search for $n \rightarrow \bar{n}$ oscillation with the Super-Kamiokande (SK) experiment.

Full exposure data set of SK was analyzed using a multi-variate analysis based on kinematic variables and basic distributions from simulated $n \rightarrow \bar{n}$ signal events and atmospheric neutrino backgrounds.

The expected number of background events is 9.3, based on which the sensitivity of nuclear lifetime is calculated as 4.3×10^{32} years, significantly improved from the present best-limit 1.9×10^{32} years from SK-I.

Mini-abstract

New result for $n \rightarrow \bar{n}$ oscillation search at SK.

Experiment/Collaboration

Super-Kamiokande

Primary author: Dr WAN, Linyan (Boston University)

Presenter: Dr WAN, Linyan (Boston University)

Session Classification: Poster session 3